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Report from the SCAR Delegation to XXXII ATCM in Baltimore, USA, 6-17 April 2009

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1. Introduction

The XXXII Antarctic Treaty Consultative Meeting (ATCM) took place in Baltimore, Maryland, USA, at the Baltimore Convention Centre from 6th to 17th April 2009. In parallel with the start of the Committee on Environmental Protection (CEP) XII in Baltimore on April 6th, a joint session between the Antarctic Treaty Consultative Parties (ATCPs) and the Arctic Council was held at the US State Department in Washington DC. US Secretary of State Hilary Clinton, and the President of the Arctic Council addressed the joint meeting. It featured the endorsement of a joint Ministerial Declaration on the International Polar Year 2007-2008 (IPY) (Appendix 1). The session was followed by an afternoon presentation on the science of IPY by US scientists at the US National Academy's headquarters, in Washington, DC. Videos of these presentation videos are available at:
http://www.nsf.gov/news/news_summ.jsp?cntn_id=114688.

The SCAR Delegation consisted of C Summerhayes (Head of Delegation), C Kennicutt, M Sparrow, and K Lochte, who presented the SCAR lecture. The Chairman of SCAR's Standing Committee on the Antarctic Treaty System (SC-ATS), S Chown, sent his regrets for being unable to attend. Several of the Members of SC-ATS attended the meeting (C Kennicutt, H Miller, S Marenssi, J Shears), which facilitated decision making on key issues concerning SCAR's presentations to the CEP and the ATCM. SCAR Vice-Presidents R Ravindra and S Marenssi were also present.

2. SCAR Input

SCAR provided one Working Paper and nine Information Papers (one on behalf of the IPY International Project Office). Papers comprised those dealing with requests made of SCAR as well as those providing information to the CEP, specifically:

WP48: IPY Report: Accomplishments and Challenges (prepared by D Carlson and C Summerhayes).

IP 4: SCAR's environmental code of conduct for terrestrial scientific field research in Antarctica

IP 5: SCAR's Antarctic Climate Change and the Environment (ACCE) Review Report

IP 7: SCAR's Role in the Antarctic Treaty System

IP 9: SCAR's Annual Report 2008 – 2009

IP 10: The IPY Aliens in Antarctica Project (a preliminary view)

IP 55: Improvements to the Alien Species Database (submitted by Australia and SCAR)

IP 65: Biological prospecting in the Antarctic: An update on the review by SCAR

IP 69: Persistent Organic Pollutants in the Antarctic (prepared by SCAR's Environmental Contamination in Antarctica Action Group)

IP 71: The SCAR Lecture – Marine Life and Change in the Southern Ocean

The papers are available on the SCAR web site:
(http://www.scar.org/treaty/atcmxxxii/)

3. Committee on Environmental Protection XII

3.1 International Polar Year (Also submitted to ATCM)

On behalf of the International Polar Year (IPY) Project Office, SCAR submitted WP 48, reviewing progress. David Carlson, Director of the IPY International Programme Office, presented the IPY paper. In summary he called for a continued focus on polar research and polar issues at the highest levels of national and international science organisations; the development of integrated climate–ecosystem–economic prediction capabilities for polar regions and regional prediction capabilities for specific areas of the Antarctic; identification of stable long-term locations for the many networks and programmes established during IPY; the provision of attention and assistance to the recruitment and retention of young polar scientists within national research programmes and to the growing international Association of Polar Early Career Scientists (APECS); the rapid provision of IPY data and outcomes as contributions to global and polar-specific integrated assessments; and increased national efforts to preserve, store and exchange reliable, accessible, long-term IPY data.

SCAR commented that to make sure the IPY legacy works effectively in the south polar region, Parties are encouraged to submit data to their national Antarctic data centres, and - if they do not have such centres - to establish them; these centres form part of an international network of data and information exchange that is coordinated by SCAR through its Standing Committee on Antarctic Data Management (SC-ADM). Only by sharing data across national boundaries will a pan-Antarctic view of how Antarctica works as an integrated component of the Earth system be attained. IPY also aimed to develop observing systems as a lasting legacy. In that context SCAR is developing with SCOR (Scientific Committee on Oceanic Research) the scientific design for a Southern Ocean Observing System (SOOS). **SCAR hopes to bring the design plan for the SOOS to ATCM and CEP in 2010.** Finally SCAR reminded Parties that the second IPY science conference would take place in Oslo, Norway, in June 2010.

CEP urged parties to contribute to the IPY legacy.

3.2 Environmental Domains

New Zealand introduced WP 31, *Updated analysis of representation of Annex V categories and Environmental Domains in the system of Antarctic Specially Protected and Managed Areas*. **SCAR noted that it is in the midst of an assessment of the Environmental Domains Analysis (EDA), which it plans to present at CEP XIII.**

3.3 Marine Protected Areas

The UK introduced WP 34, *Spatial protection and management of Antarctic marine biodiversity (MPAs)*. **SCAR confirmed its willingness to cooperate on this issue as**

the work progresses (no deadline set, and the work programme will evolve through negotiations over time).

3.4 Non-Native Species

Australia, France and NZ introduced WP 5, *A work programme for CEP action on non-native species*. SCAR welcomed the proposed work programme, but pointed out that during its ongoing evaluation of terrestrial biodiversity - as part of the evaluation of the environmental domains analysis approach (which will be reported in 2010) - it has become clear that there are major gaps in our knowledge of terrestrial biodiversity. Without knowing what is indigenous, identifying non-native species and their impact will be problematic. The Census of Antarctic Marine Life demonstrates how breakthroughs in understanding the nature of biodiversity in the ocean can be accomplished and a similar effort is needed for terrestrial environments. **SCAR volunteered to participate in the Intersessional Contact Group (ICG) to identify high-risk areas, and to propose research needs with particular reference to the lack of knowledge of native species; these efforts are essential to any study of non-native species.** SCAR thanked Australia for hosting the SCAR biodiversity database, which will be an essential aid in evaluating the distribution of native and non-native species. CEP welcomed SCAR's offer.

The UK introduced WP 33, *Review of provisions relating to non-native species introductions in ASPA and ASMA management plans*. SCAR noted that inter-site transfer within the Antarctic is also a concern, because of the possibility of genetic 'contamination' and this impact needs careful consideration. **SCAR offered assistance subject to negotiation with the authors of the work.**

SCAR presented IP 4, *SCAR's environmental code of conduct for terrestrial scientific field research in Antarctica*, which had been reviewed by SCAR scientists and COMNAP and endorsed by Delegates at XXX SCAR. SCAR encouraged Parties to implement the code.

SCAR introduced IP 10, *The Aliens in Antarctic Project*, noting that this was a preview of only part of the project, highlighting the work of the Dutch group. **SCAR will provide a comprehensive report on the IPY Aliens project to CEP XIII.**

Australia and SCAR introduced IP 55, *Improvements to the Alien Species Database*. This reminds parties of the need to use the SCAR terrestrial biodiversity database maintained by the AAD, as a central database for non-native terrestrial species. CEP encouraged parties to submit data to and use the database.

3.5 Seabirds

ACAP provided WP 30, *Standardised methodology for counting southern giant petrels*. SCAR welcomed the information from ACAP and supported the continued provision of advice by ACAP.

3.6 Antarctic Climate Change and the Environment (IP 5) (also given to ATCM)

SCAR noted that for the past few years it has been providing the ATCM and CEP with updates on the evolution of the scientific understanding of climate change in the Antarctic and its interactions with the global climate system. In January 2009 SCAR's review of the physics of the climate system was published in the journal

Reviews of Geophysics, reflecting SCAR's desire for peer review of its findings. SCAR is now adding to that work with an update on the physics of the ocean, ice, atmosphere system and an integration with knowledge of the changes in the biology that seem to occur in response to climate change in Antarctica and the Southern Ocean. This review will appear later this year as a book designed to be, in one sense, an Antarctic equivalent of the Arctic Climate Impact Assessment published in 2005. The draft of the book is out for review by the scientific community so it is a work in progress subject to continuing revision. However, the executive summary of the book has been extensively reviewed and is available as paper IP 5. It is likely that this summary will be improved upon as the book is finalized, but SCAR is confident that it is a reasonable digest of the science at this time. SCAR is preparing the summary for publication in the peer-reviewed literature. Once the ACCE book has been published, SCAR intends to provide the ATCM and CEP with annual updates on the state of the climate and environment. SCAR wishes to work closely with others (CEP, CCAMLR, COMNAP) on the production of those reports. In conclusion SCAR encouraged Parties to support and foster research on: Antarctic climate change focusing on those aspects that are least understood (such as models of the behaviour of the ice sheet, for example) with particular attention paid to establishing and sustaining long-term, interdisciplinary observing projects; the distribution of terrestrial species and the spatial distribution of genetic diversity especially in rapidly warming areas; and identifying areas prone to an elevated risk of biological invasion due to climate change.

The report was very well received. Norway proposed that ATCM convene a formal climate change meeting of scientific, government and management experts and proposed to host such a meeting in Norway in 2010. **SCAR was asked to bring updates on Antarctic climate change to future CEP meetings, and offered to join the meeting of experts in 2010.**

The UK introduced WP 38, *Climate change and the Antarctic environment: management implications*. **SCAR offered to provide a review paper by next year (or two years at latest), in consultation with other parties, on how best to decide (a) where to conduct climate change monitoring, and (b) what were the most effective indicators of climate change.**

3.7 Data and Information

The UK presented WP 41, *Development of environmental data services to inform the environmental impact assessment (EIA)*. They propose that the CEP work with SCAR, COMNAP and CCAMLR to facilitate easier access to and ensure better co-ordination of environmental monitoring data and information for development of EIAs. This would capitalise on SCAR's Antarctic Master Directory and the efforts of SC-ADM. They suggested that SC-ADM could assist in improving the current system by:

- enabling analysis of long-term trends;
- allowing comparison with similar environmental monitoring data from other sites;
- where appropriate, providing base-line environmental monitoring data before activities start;
- encouraging co-ordinated and regular/systematic collection of environmental monitoring data; and

- facilitating closer integration of information on environmental monitoring data, Antarctic activities and the EIA process.

CEP requested SCAR to ask SCADM to provide a report for the next meeting on how it could assist the Committee's work.

3.8 Persistent Organic Pollutants

SCAR introduced IP 69, *Persistent Organic Pollutants in the Antarctic: an Update*. SCAR recalled a request made to ATCM by the Stockholm Convention for information on persistent organic pollutants in the Antarctic Treaty Area. SCAR's Action Group on Environmental Contamination in Antarctica (ECA) prepared a comprehensive report presented as an extended summary in IP 69. The final report is being edited and will be ready by end April. **SCAR agreed to provide the full POPs report to the CEP Chair as soon as it was ready.** He will distribute it further.

3.9 CEP and SCAR interactions

For the first time, the CEP Chair was invited to attend the SCAR Delegates meeting. H Decleir (Belgium) represented CEP at XXX SCAR and reported on his attendance through WP52. The CEP welcomed this increased cooperation between CEP and SCAR.

SCAR introduced IP 7, *SCAR's role in the Antarctic Treaty System*. Over the years the framework within which SCAR conducts its Treaty advisory role has become increasingly complex, with the creation of new organizations, large increases in the numbers of nations participating, and the adoption of various conventions and legal instruments. As the Antarctic Treaty System has evolved, so has SCAR and its advisory role. IP 7 is intended to act as a sort of handbook to address possible misconceptions about SCAR's role, and to establish a common understanding among Parties for setting realistic expectations in relation to SCAR's role in the Antarctic Treaty System. The paper reaffirms SCAR's commitment to its advisory role, its independence, and its desire to bring before the Parties the latest and most up to date scientific information and knowledge to bear on critical issues relating to policy. The IP also outlines the principles that guide SCAR's advisory activities:

1) SCAR is committed to giving the best, most accurate and up-to-date scientific advice.
2) Assessments of scientific data and information are works in progress and conclusions are qualified as being to the "best of our knowledge".
3) SCAR has a yearly obligation to the ATCM to provide new or updated advice and a "best effort" is the goal within time constraints, but not at the sacrifice of quality.
4) SCAR primarily relies on peer-reviewed, publicly available science and information as a quality control/quality assurance mechanism.
5) Broad, inclusive, and open consultation is the basis for producing SCAR advisory documents.
6) SCAR has ultimate responsible for the quality and accuracy of its advice, accepts this responsibility, and highly values its reputation as an objective, authoritative and independent source of advice.

SCAR urged parties to examine IP 7 to develop common and realistic expectations for SCAR's role in the Antarctic Treaty System. The CEP welcomed the paper and the ongoing and developing relationship between SCAR and the CEP, noting that the CEP is reliant on SCAR for the provision of high quality and timely scientific advice that is outside the expertise of the Committee.

SCAR requested the CEP Chair, after each meeting, to provide in writing a summary of the requests made of SCAR by the committee, indicating what was required and by when.

3.10 Management plans for ASPAs and ASMAs

Off-line **SCAR was requested to resume its provision of advice on scientific issues if at all possible.**

4. Antarctic Treaty Consultative Meeting

4.1 SCAR Annual Report 2007 – 2008

The SCAR President, Chuck Kennicutt, presented a comprehensive report (IP 9) on SCAR's activities in the inter-sessional period. SCAR provides the Antarctic Treaty with high quality, independent scientific advice on a wide range of issues being considered by the Antarctic Treaty Parties. In 2008 SCAR's national membership grew to 35 with the addition of Romania. SCAR is now legally registered in the UK as a Charity. Thanks to assistance from the Russian Federation, SCAR organized with the International Arctic Science Committee (IASC), the first International Polar Year science conference (St Petersburg, Russia, July 2008). This was the largest polar science conference ever, with 1,150 attendees. SCAR contributed in a leadership role and through 70 science projects to the International Polar Year, which concluded on March 1, 2009. SCAR is currently undergoing an external review (by a team from the USA, Italy, Switzerland, UK and Australia) as an aid to the construction of its second strategic plan (2010-2016). SCAR is now a key partner in a project sponsored by the International Council for Science (ICSU) to develop a Polar Information Commons; this bipolar approach to data management, involving the World Meteorological Organisation (WMO) and others, will champion co-operation on data access among Parties with polar interests. In 2009 SCAR will finalize its Data and Information Strategy, which will be an important piece of the Polar Commons initiative. Thanks to assistance from Italy and Australia, SCAR continues to update the SCAR Composite Gazetteer of Antarctica, now hosted on a web site at the Australian Antarctic Data Centre. The Gazetteer is the most complete and updated list of geographical names in Antarctica including 36006 geographical names corresponding to 18,209 geographical features provided by 22 Countries. For the present ATCM and CEP, SCAR has submitted 1 Working Paper and 9 Information Papers. Due to the short time between ATCM's this last year, SCAR has had to defer submissions on a few items requested by the CEP during XXXI ATCM, including an evaluation of the environmental domains analysis in relation to terrestrial biodiversity, an assessment of conservation planning, a full review of the Aliens in Antarctic IPY programme, and an aliens risk assessment. These will all be available in 2010. SCAR stands ready to assist the ATCPs as necessary. The report was well received.

4.2 SCAR Lecture – Marine Life and Change in the Southern Ocean

The SCAR lecture, on "Marine Life and Change in the Southern Ocean", and providing SCAR with an opportunity to highlight the work of EBA, was given by Dr. Karin Lochte of AWI, and took place between 1200 and 1300 on Tuesday April 14th. It was very well received. **The SCAR Lecture Powerpoint slides will be placed on the SCAR web site before the end of April.** SCAR was asked to present a lecture to ATCM XXXIII.

4.3 Bioprospecting

SCAR introduced IP 65, *Biological prospecting in the Antarctic: an update on the review by SCAR*. Owing to incomplete returns of the SCAR questionnaire it was not possible to complete the survey in the short time available since the last CEP meeting. SCAR was proposing to complete the survey to the extent possible by CEP XIII. Bioprospecting was considered under agenda item 17 in the Institutional and Legal Working Group. Four working papers and six informational papers were considered under this agenda item. The issue of bioprospecting has many facets and resulted in robust discussions. Issues are related to definitions, access to geographical sites and information, benefit sharing, and information reporting. The topic of bioprospecting is drawing much attention and it will no doubt take substantial time to resolve a way forward. There seems to be general agreement that the ATS has the mechanisms and procedures to deal with bioprospecting. SCAR IP 65 gave an update on progress in reviewing published literature and summarized the results from a survey of the bioprospecting activities of its members. SCAR noted that disentangling systematic research from bioprospecting requires consideration of the systematic literature in toto; many activities are not comprehensively reported in scientific reports submitted to SCAR, and much of the initial work in the field is published in local journals that are frequently more difficult to access than regional or international periodicals. This has led to the conclusion that a substantially larger group of scientists will need to be involved if a comprehensive assessment is to be the result. Due to these factors, more time will be necessary to adequately address the requests by the Treaty Parties. Presenting a paper at ATCM XXXII would be premature in that it would not be an accurate reflection of the range of work published and activities undertaken by SCAR members. **SCAR will continue to assess the information available, as agreed to at ATCM XXXI providing as comprehensive a response as possible by ATCM XXXIII. SCAR called on Parties to encourage their respective communities to respond to the SCAR survey so the report next year can provide a complete and accurate picture of bioprospecting activities in Antarctica.**

4.4 Climate Change (also addressed under CEP, above)

Under Agenda item 13 of the ATCM, SCAR reminded Parties of the main findings of IP 5 (see 3.6 above). It was exceptionally well received, with the US, UK and many others congratulating SCAR on doing a 'remarkable' piece of work of 'excellent quality' providing 'extremely important advice' to Treaty Parties (their words in quotes). **SCAR was asked to produce an update for the next meeting (May 2010).** The Parties decided to forward the SCAR climate paper (WP 05) to the Executive Secretary of the UNFCCC for consideration at the 51st UNFCCC meeting in Copenhagen (3-4 Dec, 2009).

Norway and the UK suggested the need for an international meeting of climate experts to address the way forward. The meeting is scheduled for around 6-9 April 2010. The meeting will address:

- Key scientific aspects of climate change and consequences of such change to the Antarctic terrestrial and marine environment;
- Implications of climate change to management of Antarctic activities;
- The need for monitoring, scenario planning, risk assessments;
- Consideration of relevant outcomes of the Copenhagen (UNFCCC) negotiations relevant for the Antarctic;
- The need for further consideration of any of the above issues and manners in which this can be achieved.

SCAR offered to participate in the meeting of the group of climate experts.

4.5 IPY (also addressed under CEP, see 3.1 above)

Norway and the UK presented their paper (WP 5) suggesting the need for a review by Parties of the contribution of the IPY. It was agreed to hold an IPY workshop in Oslo immediately after the IPY Conference of 8-12 June 2010. **SCAR agreed to participate in the workshop on the IPY legacy**.

David Carlson reintroduced WP 48 (submitted by SCAR and IPY-IPO). In summary he called for a continued focus on polar research and polar issues at the highest levels of national and international science organisations; the development of integrated climate-ecosystem-economic prediction capabilities for polar regions and regional prediction capabilities for specific areas of the Antarctic; identification of stable long-term locations for the many networks and programmes established during IPY; the provision of attention and assistance to the recruitment and retention of young polar scientists within national research programmes and to the growing international Association of Polar Early Career Scientists; the rapid provision of IPY data and outcomes as contributions to global and polar-specific integrated assessments; and increased national efforts to preserve, store and exchange reliable, accessible, long-term IPY data. **Parties adopted Resolution XXX on the IPY legacy (Appendix 2).**

SCAR thanked Dr Carlson for his outstanding contribution to making the IPY as effective as it was. One of the outstanding successes of IPY was the Census of Antarctic Marine Life programme, sponsored by SCAR and organised by the Australian Antarctic Division. It has discovered 1000 species new to science in the Southern Ocean. However there are likely to be as many if not far more species yet to be discovered in that ocean. As an organiser of the IPY, the World Meteorological Organisation had called for the development of Arctic and Southern Ocean Observing Systems. SCAR had taken the responsibility for designing the Southern Ocean Observing System (SOOS), the design for which would soon be published. SOOS would provide an essential basis for climate forecasting in the region. **SCAR will bring the SOOS design plan to the next meeting of the ATCM.** Australia noted that it was keen to work with SCAR on the design.

SCAR offered to present at the next meeting a short IP on APECS. Parties welcomed SCAR's offer.

4.6 Other items

Parties created Measure M, recommending that governments require tour operators to refrain from making landings from vessels carrying more than 500 passengers, to avoid having more than one ship at any one site at any one time, and to restrict landings to no more than 100 passengers at a time per site, with a ratio of guide-to-passenger of 1:20. Article 1 of Annex II to the Protocol on Environmental Protection was modified to include invertebrates. Article 3 of Annex II was modified to indicate that proposals for designation of a species as specially protected should be forwarded to CEP, SCAR, CCAMLR and ACAP for comment.

4.7 Meetings

Lunch or dinner meetings or discussions were held with COMNAP, CCAMLR, IPF, India, Australia, Korea, Netherlands, Belgium, USA, UK, SCAR Lecturer, members of SC-ATS, 2 SCAR V-Ps, and the Director of the IPY-IPO.

5. Products to be delivered by ATCM XXXIII

ATCM XXXIII will take place in Montevideo, Uruguay, from May 4-15, 2010. To give effect to its work in the ATCM/CEP, SC-ATS will have to undertake the work agreed to as indicated in the table below. The work is budgeted for 2009 and 2010. In keeping with the need to keep SCAR Delegates informed of budget requests, the budget for 2010 is also included with an indication of what might emerge. **Note these requests remain at the originally requested level, not at the (downward) revised level.**

SC-ATS Activity	**2009**	**2010**
Persistent organic pollutants (final report)	2500	0
Biodiversity and EDA Assessment (for 2010)	3000	0
Alien risk assessment (for 2010)	1000	0
Conservation planning assessment (for 2010)	1000	0
Management plans consideration (all years)	1500	2500
Bioprospecting (for 2010)	1000	0
Aliens in Antarctica (for 2010)	1500	1500
Matters arising from SCAR SSGs and Delegates	0	2500
Latest ATCM & CEP requests (MPAs; ICG on non-native species; inter-site contamination; climate indicators review; SCADM review of use of AMD; IP on APECS; WP on SOOS Design; assisting ATCM Group of Climate Experts; Oslo workshop on the IPY assessment)	3500	3500
Conservation Science for Antarctica (for 2011)	0	5000

Climate change update (all years)	0	0
SCAR Annual Report (all years)	0	0
Travel to ACAP/CCAMLR (all years)	5000	5000
Totals	**20000**	**20000**

Appendix 1

Antarctic Treaty Consultative Meeting, Baltimore, USA, April 6-17, 2009

Antarctic Treaty-Arctic Council Joint Meeting

Washington Declaration on the International Polar Year and Polar Science

On the occasion of the conclusion of the fourth International Polar Year (IPY), the Member States of the Arctic Council and the Consultative Parties to the Antarctic Treaty,

Observing that the IPY occurred against a backdrop of rapid and significant climate and environmental change in the polar regions,

Acknowledging the unique scientific importance of the polar regions, both as actors and barometers of these changes, which are vital to the functioning of the earth's terrestrial, biological, climate, ocean and atmosphere systems,

Recognising the need to improve the modelling and prediction of change on a regional basis,

Recognising the significant work of the Intergovernmental Panel on Climate Change in assessing documented and predicted changes in polar regions and in relating them to larger global systems,

Affirming the importance of the IPY's findings to the scientific community, Arctic residents, including indigenous peoples, and to humanity as a whole,

Observing the success of participants in forming IPY collaborations that integrate the human, physical, and biological aspects of their research to achieve system-scale knowledge,

Recognising the vital contributions toward understanding the characteristics and dynamics of polar regions and their roles for the world's ecosystems made by scientists and other participants from over sixty countries,

Noting the extensive efforts of the International Council for Science (ICSU), the World Meteorological Organisation (WMO), the many IPY National Committees, and the scientists and other participants around the globe whose research made IPY a great success,

Recalling the goals for the IPY set forth in the 2006 Edinburgh Antarctic Declaration on the International Polar Year 2007-2008, and the strong support for IPY expressed by the Arctic Council in the 2006 Salekhard Declaration,

Expecting that the legacy of the IPY will continue well beyond its formal conclusion,

Hereby:

1. Urge states, national and international scientific bodies, and other interested parties to cooperate to deliver a lasting legacy from the IPY, and to support appropriate infrastructures to achieve this;

2. Commit themselves to reviewing key issues related to scientific cooperation and recent scientific findings at the biennial Ministerial Meetings of the Arctic Council and annual Antarctic Treaty Consultative Meetings, and further commit to using science to help inform the cooperative development of measures to address the threats to the polar regions;

3. Call upon IPY participants to continue to make data collected under IPY 2007-2008 and its legacy programs available in an open and timely manner, recall the obligations related to exchange of scientific information to this effect in the Antarctic Treaty, and encourage the same spirit of scientific openness among Arctic researchers;

4. Endorse the goal of strengthening international cooperation at all levels in polar regions among States, scientists, Arctic residents, including indigenous peoples, and their institutions in areas such as educational outreach, human and ecosystem health, environmental protection, and scholarships for young scientists;

5. Encourage the development of coordinated research and scientific observations at both poles to compare the current dynamics of polar areas and their contributions to the Earth's processes and changes;

6. Recommend that governments continue their support for efforts initiated during IPY to create and link observational systems in order to improve the modelling and prediction of climate change on both regional and temporal scales;

7. Encourage states and international bodies to use the scientific understandings derived from IPY research to support the development of concrete steps to protect the environment in the polar regions;

8. Support the analysis and use of scientific data and information collected from the polar regions as a result of IPY to contribute to future assessments by the Intergovernmental Panel on Climate Change, as well as other efforts to address climate change, and future Arctic Council assessments;

9. Call upon states, organisations, scientists, and other stakeholders to continue to engage with young people to cultivate the next generation of polar scientists, and to communicate with the general public to develop an awareness of the importance of polar research for life in all regions of the world; and

10. Affirm the value of collaboration and coordination between states and Arctic residents, including indigenous peoples, for the benefit of polar research.

Adopted at Washington, April 6, 2009.

Appendix 2

ATCM Resolution I (2009)

Ensuring the legacy of the International Polar Year (IPY)

The Representatives,

Recalling the Edinburgh Antarctic Declaration on the IPY 2007-2008 that was agreed at ATCM XXIX, which supports the objective of delivering a lasting legacy for the IPY, and promotes increasing collaboration and coordination of scientific studies within Antarctica;

Recalling Resolution 3 (2007) from ATCM XXX, New Delhi, urging national Antarctic programmes (i) to maintain and extend long-term scientific monitoring and sustained observations of environmental change in the physical, chemical, geological and biological components of the Antarctic environment; (ii) to contribute to a coordinated Antarctic observing system network initiated during the IPY (2007-08) in cooperation with SCAR, CCAMLR, WMO, GOOS and other appropriate international bodies; and (iii) to support long-term monitoring and sustained observations of the Antarctic environment and the associated data management as a primary legacy of the IPY, to enable the detection, and underpin the understanding and forecasting of the impacts of environmental and climate change;

Noting that at the Forty-first Session of the Executive Council of the Intergovernmental Oceanographic Commission (Paris 2008) several IOC Member States recommended that IOC should play a major role in the Antarctic Treaty Consultative Meeting (ATCM), particularly in the development of a Southern Ocean Observing System, under GOOS, and that the IOC Executive Council decided that further consideration of the legacy of the IPY would occur at the 25th Session of the IOC Assembly (Paris, 2009); and

Recalling the Ministerial Declaration on the IPY and Polar Science adopted at the Antarctic Treaty – Arctic Council joint meeting in Washington on 6 April 2009;

Recommend that the Parties:

- Continue to focus attention on Antarctic research at the highest levels of national and international science organisations;
- Work with SCAR and COMNAP to implement Resolution 3 (2007) and maintain, extend and develop long-term scientific monitoring and scientific observations in Antarctica and the surrounding Southern Ocean;
- Develop integrated climate–ecosystem prediction capabilities for Antarctica and regional prediction capabilities for specific areas of the Antarctic;
- Identify stable long-term locations for the many networks and programmes established and strengthened during IPY;
- Provide attention and assistance to the recruitment and retention of young polar scientists within national Antarctic research programmes;
- Provide IPY data and outcomes from Antarctica as contributions to integrated climate change and environmental reviews and assessments; and
- Preserve, store and exchange reliable, accessible, long-term IPY data.

Appendix 3

List of Acronyms

AAD	Australian Antarctic Division
ACAP	Advisory Committee on Albatrosses and Petrels
ACCE	Antarctic Climate Change and the Environment (ACCE) Review
AMD	Antarctic Master Directory
APECS	Association of Polar Early Career Scientists
ASMA	Antarctic Specially Managed Area
ASPA	Antarctic Specially Protected Area
ATCM	Antarctic Treaty Consultative Meeting
ATCPs	Antarctic Treaty Consultative Parties
ATS	Antarctic Treaty System
AWI	Alfred Wegener Institute for Polar and Marine Research
CAML	Census of Antarctic Marine Life
CCAMLR	Convention on Conservation of Antarctic Living Marine Resources
CEP	Committee on Environmental Protection
COMNAP	Council of Managers of National Antarctic Programmes
EDA	Environmental Domains Analysis
EIA	Environmental Impact Assessment
GOOS	Global Ocean Observing System
IASC	International Arctic Science Committee
ICG	Inter-sessional Contact Group
ICSU	International Council for Science
IOC	Intergovernmental Oceanographic Commission
IP	Information Paper
IPF	International Polar Foundation
IPY	International Polar Year
IPY-IPO	IPY International Project Office
MPAs	Marine Protected Areas
POPs	Persistent Organic Pollutants
SC-ADM	SCAR's Standing Committee on Antarctic Data Management
SC-ATS	SCAR's Standing Committee on the Antarctic Treaty System
SCOR	Scientific Committee on Oceanic Research
SOOS	Southern Ocean Observing System
UNFCCC	United Nations Framework Convention on Climate Change
V-Ps	Vice Presidents
WMO	World Meteorological Organisation
WP	Working Paper